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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,343	12/01/2000	Gary Mark Crosbie	200-0188	4125
28395	7590	02/10/2004	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			SAMPLE, DAVID R	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/728,343	CROSBIE, GARY MARK	
	<b>Examiner</b>	<b>Art Unit</b>	
	David Sample	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 November 2003.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-6, 13, 14, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.
- 5) Claim(s) 3, 4 and 6 is/are allowed.
- 6) Claim(s) 1, 2, 5, 13, 14, 19 and 20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/30/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Group I in the response filed 11/13/2003 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 13-18 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected an invention, there being no allowable generic or linking claim. Election was made **without** traverse in the paper filed 11/13/2003.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 5, 14, 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 2, 5, 19 and 20 currently recite: "the matrix composition remaining in a glassy state after sealing at temperatures up to 1200°C." The closest recitation in the specification is:

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When the first or second matrix glass composition is physically mixed with certain finely divided ceramic powders, such as Mg<sub>2</sub>SiO<sub>4</sub>, a sealing glass with an overall third or fourth chemical composition is formed which seals to yttria-stabilized zirconia upon firing at about 1150 - 1200°C.

This portion of the specification, and the remainder of the specification, fail to refer to the state of the glass upon firing. The specification states that the composition seals to an SOFC upon firing at 1150-1200°C, but fails to refer to the state of the glass upon firing (i.e., glassy or crystallized). For this reason, claims 1, 2, 5, 19 and 20 are not supported by the specification as originally filed.

As to claims 1, 2 and 5, the specification states that it is the mixture of the glass and Mg<sub>2</sub>SiO<sub>4</sub> which results in a composition that can be sealed to an SOFC. There is no description that the glass alone (as in claims 1, 2 and 5) can be sealed to an SOFC.

Lastly, claims 14, 19 and 20 recite that the composition contains 15-40, or 20-35 weight percent Mg<sub>2</sub>SiO<sub>4</sub>. The examiner was unable to locate this recitation in the specification as originally filed.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrissey et al. (US Patent No. 3,022,179).

Morrissey et al. discloses a glass composition that the examiner believes has overlapping ranges of components with the glass of the present invention. Further in this regard, a theoretical composition containing 50 wt% SiO<sub>2</sub>, 35 wt% BaO, 12 wt%Al<sub>2</sub>O<sub>3</sub> and 3 wt% MgO (within the scope of Morrissey) converts to a glass containing 66 wt%SiO<sub>2</sub>, 18 mol% BaO, 9 mol% Al<sub>2</sub>O<sub>3</sub>and 6 mol% MgO (a composition within the instant claims). Overlapping ranges have sufficient to establish *prima facie* obviousness. See MPEP 2144.05.

The reference discloses the presence of additional "fluxing agents" whereas the instant claims employ "consisting essentially of" language. However, there is nothing of record to suggest that components such as Al<sub>2</sub>O<sub>3</sub> or MgF<sub>2</sub> would materially affect the novel or basic characteristics of the present composition.

Since the composition of the reference and the composition of the claims have overlapping ranges of components, one of ordinary skill in the art would have expected the glass of the reference to have the claimed properties.

#### ***Allowable Subject Matter***

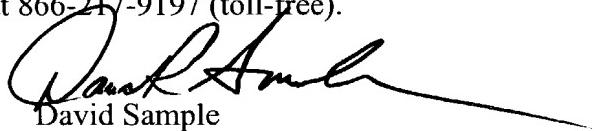
Claims 3, 4, and 6 are allowed. The prior art fails to disclose or suggest the recited glass composition in mixture with forsterite, Mg<sub>2</sub>SiO<sub>4</sub>.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (572)272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Sample  
Primary Examiner  
Art Unit 1755